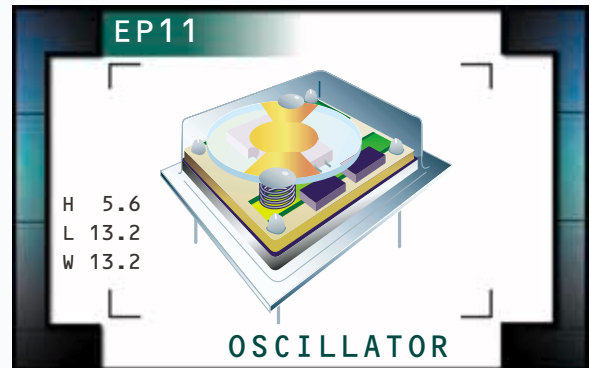


# EP11 Series

- EPO TM Programmable Oscillators
- 5.0V supply voltage
- HCMOS/TTL output
- 8 pin DIP package
- Stability to 50ppm
- Custom lead length, gull wing options available



## ELECTRICAL SPECIFICATIONS

<b>Frequency Range</b>		1.000MHz to 125.000MHz
<b>Operating Temperature Range</b>		-20°C to 70°C or -40°C to 85°C
<b>Storage Temperature Range</b>		-55°C to 125°C
<b>Supply Voltage (V<sub>DD</sub>)</b>		5.0V <sub>DC</sub> ±10%
<b>Input Current</b>		45mA Maximum (Unloaded)
<b>Disable Current (TS Option)</b>		30mA Maximum (Pin 1=Ground)
<b>Standby Current (PD Option)</b>		50µA Maximum (Pin 1=Ground)
<b>Frequency Tolerance / Stability</b>	Inclusive of Operating Temp Range, Supply Voltage, and Load	±100ppm or ±50ppm Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	w/TTL Load	2.4V <sub>DC</sub> Minimum I <sub>OH</sub> =-16mA
	w/HCMOS Load	V <sub>DD</sub> -0.4V <sub>DC</sub> Minimum I <sub>OH</sub> =-16mA
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	w/TTL Load or w/HCMOS Load	0.4V <sub>DC</sub> Maximum I <sub>OL</sub> =+16mA
<b>Rise Time / Fall Time</b>	0.8V <sub>DC</sub> to 2.0 V <sub>DC</sub> w/TTL Load or 20% to 80% of Waveform w/HCMOS Load	4 nSeconds Maximum
<b>Duty Cycle</b>	at 1.4V <sub>DC</sub> w/TTL Load; at 50% of waveform w/HCMOS Load at 1.4V <sub>DC</sub> w/TTL Load (≤27.000MHz only), or at 50% of waveform w/HCMOS Load (≤50.000MHz only)	50 ±10(%) (Standard) 50 ±5(%) (Optional)
<b>Load Drive Capability /</b>	≤50.000MHz	50pF HCMOS Load Maximum
<b>Output Type-HCMOS</b>	>50.000MHz	15pF HCMOS Load Maximum
<b>Load Drive Capability /</b>	≤40.000MHz	10TTL Load Maximum
<b>Output Type-TTL</b>	>40.000MHz	5TTL Load Maximum
<b>Pin 1 Connection</b>	TS PD	Tri-State Power Down
<b>Pin 1 Input Voltage</b>	V <sub>IH</sub> : No Connection or ≥2.0V <sub>DC</sub> V <sub>IL</sub> : (TS Option) ≤0.8V <sub>DC</sub> V <sub>IL</sub> : (PD Option) ≤0.8V <sub>DC</sub>	Enables Output Disables Output: High Impedence Disables Output: Logic Low
<b>Aging (at 25°C)</b>		±5ppm / year Maximum
<b>Start Up Time</b>		10 mSeconds Maximum
<b>Period Jitter: Absolute</b>	≤33.000MHz >33.000MHz	±250pSec Maximum, ±100pSec Typical ±100pSec Maximum, ±50pSec Typical
<b>Period Jitter: One Sigma</b>	≤33.000MHz >33.000MHz	±50pSeconds Maximum ±30pSeconds Maximum

## PART NUMBERING GUIDE

### EP11 00 HS ET TTS L - 24.000M - CL125 TR

#### FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum (Standard)  
45=±50ppm Maximum

#### PACKAGE

HS=Half Size 8 Pin DIP

#### OPERATING TEMP. RANGE

Blank=-20°C to 70°C (Standard), ET=-40°C to 85°C

#### DUTY CYCLE

Blank=50 ±10(%) (Standard), T=50 ±5(%)

#### PIN 1 CONNECTION

TS=Tri-State Enable High, PD=Power Down

#### PACKAGING OPTIONS

Blank=Bulk (Standard)  
TR=Tape & Reel (only offered with  
Half Size G and Half Size G2 Options)

#### AVAILABLE OPTIONS

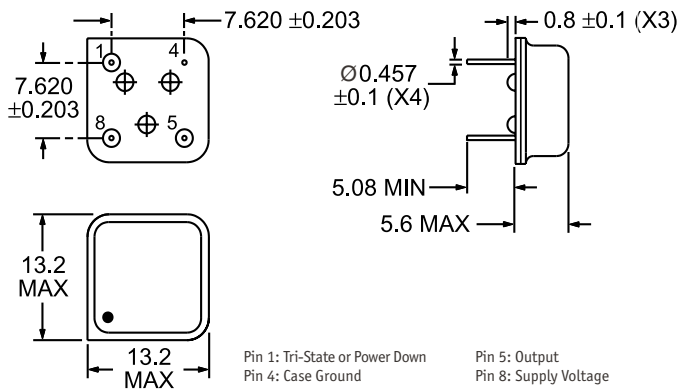
Blank=None (Standard)  
CLXXX=Custom Lead Length (See Page 123)  
G=Half Size Gull Wing (See Page 122)  
G2=Half Size Gull Wing (See Page 122)

#### FREQUENCY

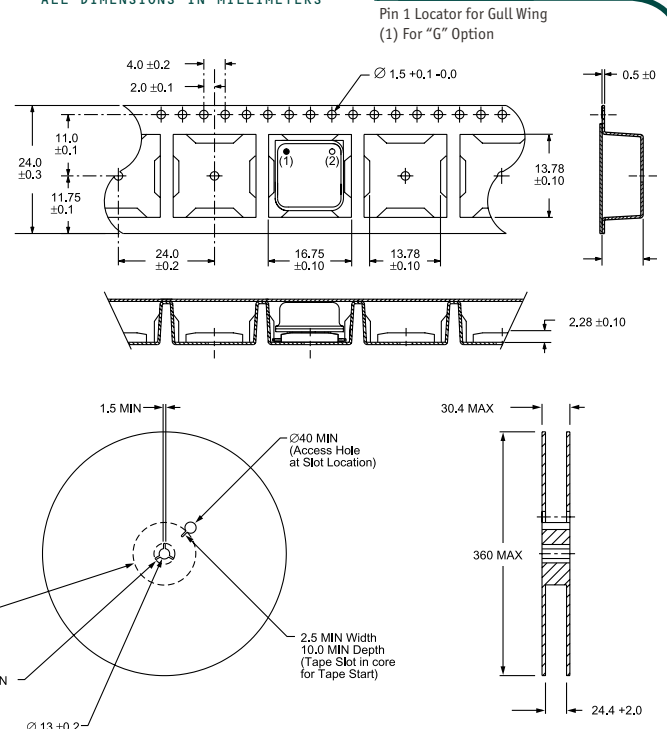
#### OUTPUT TYPE

L=TTL, C=CMOS

#### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



#### MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: EP11 TS

Pin 1 Connection  
PD = Power Down  
TS = Tri-State Enable High

Series Designator

Line 3: XX.XXX M

Frequency in MHz  
(5 Digits Maximum + Decimal)

Line 4: XX Y ZZ

Week of Year  
Last Digit of Year  
Ecliptek Manufacturing Identifier

#### ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ±5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ±5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 20cm.
Vibration	Frequency with an amplitude of 1.5mm sweeping between 10Hz to 55Hz within 1 minute (approximately) for 2 hours minimum on each axis (X, Y and Z) for a total of 6 hours.

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP11	8 pin DIP	5.0V	OS45	06/00